

WE CLAIM:

- 1 1. A controlled release pharmaceutical composition, the composition comprising
2 carbidopa, levodopa, and a combination of a low molecular weight cellulose
3 ether and a medium molecular weight cellulose ether, wherein the low
4 molecular weight cellulose ether and the medium molecular weight cellulose
5 ether are the same type of cellulose ether.
- 1 2. The controlled release pharmaceutical composition of claim 1, wherein the low
2 molecular weight cellulose ether and the medium molecular weight cellulose
3 ether comprise hydroxypropyl cellulose ether.
- 1 3. The controlled release pharmaceutical composition of claim 1, wherein the low
2 molecular weight cellulose ether and the medium molecular weight cellulose
3 ether comprise hydroxypropyl methyl cellulose ether.
- 1 4. The controlled release pharmaceutical composition of claim 1, wherein the low
2 molecular weight cellulose ether comprises hydroxypropyl cellulose ether
3 having a number average molecular weight of between approximately 55,000
4 and approximately 70,000.
- 1 5. The controlled release pharmaceutical composition of claim 4, wherein the low
2 molecular weight hydroxypropyl cellulose has a number average molecular
3 weight of approximately 65,000.
- 1 6. The controlled release pharmaceutical composition of claim 1, wherein the
2 medium molecular weight cellulose ether comprises hydroxypropyl cellulose
3 ether having a number average molecular weight of between approximately
4 110,000 and approximately 150,000.
- 1 7. The controlled release pharmaceutical composition of claim 6, wherein the
2 medium molecular weight hydroxypropyl cellulose has a number average
3 molecular weight of approximately 125,000.

- 1 8. The controlled release pharmaceutical composition of claim 1, wherein a ratio
2 of low molecular weight cellulose ether to medium molecular weight cellulose
3 ether is approximately 0.75:1 to 1.5:1.
- 1 9. The controlled release pharmaceutical composition of claim 1, wherein a ratio
2 of low molecular weight cellulose ether to medium molecular weight cellulose
3 ether is approximately 1:1.
- 1 10. The controlled release pharmaceutical composition of claim 1, wherein the
2 total cellulose ether concentration is between approximately 2% and
3 approximately 20% w/w of the composition.
- 1 11. The controlled release pharmaceutical composition of claim 1, wherein the
2 pharmaceutical composition comprises a tablet.
- 1 12. The controlled release pharmaceutical composition of claim 1, further
2 comprising one or more pharmaceutical excipients.
- 1 13. The controlled release pharmaceutical composition of claim 12, wherein the
2 one or more pharmaceutical excipients comprise one or more diluents, binders,
3 disintegrants, lubricants, glidants, colorants, and flavoring agents.
- 1 14. A process for the preparation of a controlled release composition of carbidopa
2 and levodopa, the process comprising: blending carbidopa, levodopa, a low
3 molecular weight cellulose ether, and a medium molecular weight cellulose
4 ether; optionally granulating the blend with a binder; and compressing into a
5 tablet, wherein the low molecular weight cellulose ether and the medium
6 molecular weight cellulose ether are the same type of cellulose ether.
- 1 15. The process of claim 14, further comprising blending with one or more
2 pharmaceutically acceptable excipients.
- 1 16. The process of claim 14, wherein the low molecular weight cellulose ether and
2 the medium molecular weight cellulose ether comprise hydroxypropyl
3 cellulose ether.

17. The process of claim 14, wherein the low molecular weight cellulose ether comprises hydroxypropyl cellulose ether having a number average molecular weight of between approximately 55,000 and approximately 70,000.
18. The process of claim 14, wherein the medium molecular weight cellulose ether comprises hydroxypropyl cellulose ether having a number average molecular weight of approximately 110,000 to approximately 150,000.
19. The process of claim 14, wherein granulating comprises one of a wet granulation or a dry granulation technique.
20. The process of claim 19, wherein the wet granulation is done with one or more of an aqueous, hydro-alcoholic, or alcoholic dispersion of the binder.
21. A method of providing dopamine to the brain, the method comprising administering a tablet comprising carbidopa, levodopa, a low molecular weight cellulose ether, and a medium molecular weight cellulose ether, wherein the low molecular weight cellulose ether and the medium molecular weight cellulose ether are the same type of a cellulose ether.
22. The method of claim 21, wherein the low molecular weight cellulose ether comprises hydroxypropyl cellulose ether having a number average molecular weight of between approximately 55,000 and approximately 70,000.
23. The method of claim 21, wherein the medium molecular weight cellulose ether comprises hydroxypropyl cellulose ether having a number average molecular weight of approximately 110,000 to approximately 150,000.
24. A method of treating Parkinson's disease, the method comprising administering a pharmaceutical composition to a patient in need of treatment for Parkinson's disease, the pharmaceutical composition comprising carbidopa, levodopa, a low molecular weight cellulose ether, and a medium molecular weight cellulose ether, wherein the low molecular weight cellulose ether and the medium molecular weight cellulose ether are the same type of cellulose ether.

1 25 The method of claim 24, wherein the low molecular weight cellulose ether
2 comprises hydroxypropyl cellulose ether having a number average molecular
3 weight of between approximately 55,000 and approximately 70,000.

1 26 The method of claim 24, wherein the medium molecular weight cellulose ether
2 comprises hydroxypropyl cellulose ether having a number average molecular
3 weight of approximately 110,000 to approximately 150,000.